

September 19, 2014

Planning Board  
Town Hall  
Wellesley, Massachusetts

Reference: Capital Group Properties  
Residential Development  
22 Pleasant Street  
EDC Job No.: 3417

Dear Board Members:

The following is a Municipal Impact Analysis summary for the above referenced project.

1. Utilities

a. Sewer

Based on Massachusetts Title V(310 CMR 15.00) flow design criteria for a residential use, 110 gallons per day per bedroom, 6 Townhome units at 4 bedrooms per unit times 110 = 2,640 gallons per day (1.834 gallons per minute) of sewage flow will be produced by the development.

The existing house on the site has 3 bedrooms, 330 gpd (0.229 gpm)  
The increase in flow from the site would be 990 gpd (1.614 gpm)

The existing sewer system would be able to handle the additional flow, as the sewer main in Pleasant Street, is 8 inches in diameter at a slope of 8.87 percent, additionally, an 8 inch pipe with a slope of 0.50% would yield the following capacity;

$Q_{full} = (1.49/n)AR^{2/3}S^{1/2}$  where  
Q=flow (cubic feet per second)  
n=Manning's roughness, .01 used  
A=Area of the pipe, 0.349 sf  
WP=wetted perimeter of pipe, 2.09 ft  
R=Hydraulic Radius (A/WP)  
s=slope of pipe, 0.005 ft/ft

$$Q_{full} = (1.49/.01)(0.349)(0.167)^{2/3} (0.005)^{1/2} = 1.09 \text{ cfs} = 490 \text{ gpm}$$

If a factor of safety (peaking factor) of 3.0 was placed on the proposed flow rate;  $3.0 \times 1.834 = 5.50$  gpm, this is only 1.1 percent the capacity of the 8 inch pipe at the flat slope of 0.005 ft/ft.

As can be seen on the design plans, an 8 inch sewer line with 2 manholes is proposed to serve the project, and will tie into an existing manhole located in Pleasant Street.

b. Water

Water usage for the proposed Townhomes should approximate the sewer usage as noted above. A six (6") water main is located in Pleasant Street and a 2 inch water service will be brought in from the main to the proposed Townhomes, with individual water shutoffs for each unit. The Townhomes will be sprinkled for fire protection, additionally there is a fire hydrant located directly across Pleasant Street from the site.

Testing for sufficient water pressure and flow are scheduled to be provided the week of September 22, 2014.

Since this project is located at an elevation only ten to fifteen feet higher in elevation than a record water main test located near Linden Street, water volume and pressure are expected to be more than sufficient since pressure testing previously provided on, Linden Street, located on either side of the main that Pleasant Street ties, have static pressures from 76 to 86 psi and residual pressures from 69 to 77 psi at flow rates from 1209 to 1370 gallons per minute.

c. Drainage

The existing site stormwater runoff flows freely onto Pleasant Street. Proposed infiltration systems are design to catch roof runoff from the proposed Townhomes. A proposed catch basin will be located at the end of the driveway, and tie directly to a catch basin at the low point of Pleasant Street.

As can be seen in the drainage report for the proposed Townhome project, calculations indicate that the post-developed runoff flow will be slightly less than the existing flow at the design point on Pleasant Street. This is a result of using the infiltration systems, no impact is placed on the amount of stormwater flowing onto Pleasant Street.

d. Electric

The existing house is supplied electricity through an underground conduit leading from a utility pole on Pleasant Street.

A utility pole is proposed on the project side of Pleasant Street, with overhead wires from the existing pole on the opposite side of street providing power, so no disturbance of the pavement will be incurred. The proposed pole will be a riser connection allowing feed to the underground conduit ductbank that will provide power to the rear of the Townhomes.

Wellesley Municipal Light Plant has been contacted and they have indicated that a sufficient supply of power for the Townhomes is available.

e. Gas

A gas service is also proposed to tie into the gas main within Pleasant Street and serve the project through the rear of the Townhomes. No impact to municipal services is expected.

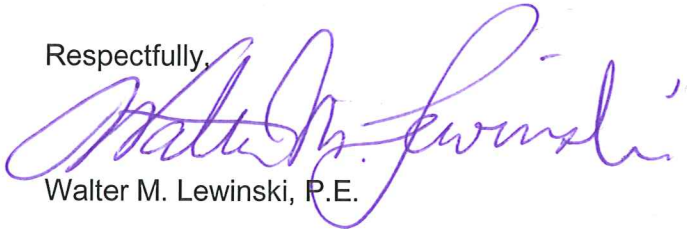
2. Building Occupant Life Safety

Townhomes in this residential district is an allowable use and there are similar adjoining facilities. This facility will be equipped with fire sprinkler systems that will further serve to protect occupant life safety. Additionally, a fire hydrant is located directly across Pleasant Street.

3. Refuse Disposal and Recycling

A commercially licensed disposal service shall be used for refuse disposal and recycling collection, barrels shall be stored within the garages of the Townhouse units. Individual residents may apply for a permit, and use the Town of Wellesley, Department of Public Works, Recycling and Disposal Facility at 169 Great Plain Avenue.

Respectfully,



Walter M. Lewinski, P.E.

cc. Capital Group Properties